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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/767,833	01/29/2004	Nicola Benvenuti	16220ROUS01U	5639
34645 7590 06/17/2008 Anderson Gorecki & Manaras, LLP Attn: John C. Gorecki P.O BOX 553 CARLISLE, MA 01741				
EXAMINER				
WONG, BLANCHE				
ART UNIT		PAPER NUMBER		
2619				
NOTIFICATION DATE		DELIVERY MODE		
06/17/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/767,833

Applicant(s)

BENVENUTI ET AL.

Examiner

BLANCHE WONG

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on February 11, 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 7-9, 11-17 and 20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-9, 11-17 and 20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB-08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-5,7-9,11-17,20 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. **Claims 1-5,7-9,11-17,20** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Amended Specification discloses "information associated with the flows through all nodes on the ring is distributed to all other nodes on the ring, e.g., when the flow is provisioned on the ring. (Fig. 13, block 100). Accordingly, each node on the ring is able to determine which flows are affected by the failure of the node (Fig. 13, block 102) and to calculate where on protection the various flows will be placed (Fig. 13, block 104)." However, claim language contains subject matter where was not described in the Specification. Claim 1 recites "distributing connection information associated with flows on the protection cycle to all nodes

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on the protection cycle; upon occurrence of a failure on the protection cycle, determine, by each node on the protection cycle, which flows are affected by the failure on the protection cycle; determining, by each node on the protection cycle, the protection transmission unit allocation for the flows affected by the failure from the connection information associated with the affected flows." First, Specification discloses a ring whereas claim 1 recites a protection cycle. Even if it is arguable that a ring is equivalent to a protection cycle, then e.g. it is rhetorical for claim 4 to recite "the protection cycle is a ring". Second, Specification discloses a failure of the node whereas claim 1 recites a failure on the protection cycle. A failure on the protection cycle can be a failure of the link or of the node. Lastly, Specification discloses a calculating where the various flows will be placed whereas claim 1 recites determining the protection transmission unit allocation for the flows. Furthermore, Specification does not mention any calculation or determination based on the information associated with flows whereas claim 1 recites determining the protection transmission unit allocation for the flows from the connection information associated with the affected flows.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 2,3,5,7,11-15,17,20** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claim 2, it is unclear whether "A/Z" in line 2 is A divided by Z, or A or Z. Additionally, it is unclear from the Specification whether the "A/Z information" in line 2 should be AZ information as disclosed in Specification, para. [0033], or A/Z information as disclosed in Specification, para. [0035].

With regard to claim 7, it is unclear what is meant by "transmission times" or "transmission times for the flows" in line 3, and whether "the flows" in line 3 are "the affected flows" in claim 1, line 11.

With regard to claim 7, it is unclear whether "the connection information" in line 4 is "the connection information associated with the affected flow" as in claim 1, line 11.

With regard to claim 14, it is unclear which one of the working paths is "the working path" in line 2.

With regard to claims 14 and 15, it is unclear that even if "time slot interchange is permitted on the working path", whether the "time slot interchange" is between the time slots on the two working paths and the two protection paths.

With regard to claim 20, it is unclear whether "the connection information" in lines 1-3 is the same as "the connection information associated with the affected flow" as in claim 1, line 11.

With regard to claim 20, it is unclear what are "the connections" in line 3.

6. There is insufficient antecedent basis for this limitation in the claim.

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Claim 5, line 3, "the failure on the ring" whereas it is recited "a failure on the protection cycle" in claim 1, line 6.

Claim 11, line 2, "the nodes".

Claim 11, line 3, "the ring."

Claim 12, line 4, "the ring".

Claim 13, line 2, "connections".

Claim 13, line 3, "the protection transmission units".

Claim 17, lines 1-2, "the connection information for connections protected by the logical restoration path".

Claim 17, lines 2-3, "nodes on the logical restoration path."

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. **Claims 1-5,7,11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Elinas et al. (U.S. Pat No. 6,331,905) in view of Anderson et al. (U.S. Pat No. 6,535,481).

With regard to claim 1, Ellinas discloses

upon occurrence of a failure on the protection cycle (**failure**) ("**The switch is monitored by a monitoring system within the node and if a failure is detected, the data is switched to selected protection fibers within the switch**", col. 5, lines 21-23) (*See Also* fiber cuts, col. 2, line 17 and equipment failures, col. 2, line 34), determine, by each node on the protection cycle (**the individual switching nodes**), which flows (**protection switching**) are affected by the failure on the protection cycle ("**The protection switching is performed at the individual switching nodes without an instruction from a central manager, and thus the APS process is distributed and autonomous**", col. 5, lines 26-29);

determining, by each node on the protection cycle (**the individual switching nodes**), the protection transmission unit allocation (**protection switching**) for the flows affected by the failure ("**The protection switching is performed at the individual switching nodes without an instruction from a central manager, and thus the APS process is distributed and autonomous**", col. 5, lines 26-29) from the connection information associated with the affected flows (**monitored**) ("**The switch is monitored by a monitoring system within the node and if a failure is detected, the data is switched to selected protection fibers within the switch**", col. 5, lines 21-23).

However, Ellinas does not explicitly show distributing connection information associated with flows on the protection cycle to all nodes on the protection cycle;

Anderson discloses distributing connection information (**advertises the link failure**) associated with flows on the protection cycle to all nodes on the protection cycle (**a network node router which supports p-cycles, col. 4, lines 24-25 and "the networking routing protocol advertises the link failure so that the network can be re-routed without the failed link", col. 4, lines 18-20**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine distributing connection information associated with flows on the protection cycle to all nodes on the protection cycle as taught in Anderson, with Ellinas, to include a networking routing protocol so that a network can know how to re-route accordingly.

With regard to claim 2, Ellinas further discloses A represents the location where the flow enters the protection cycle (**links 1,19 are arrows in**) and Z represents the location where the flow leaves the protection cycle (**links 3,17 are arrows out**) (In Fig. 1 B, link 85 includes working fiber pair 1,3, and protection fiber pair 17,19, col. 6, lines 24-25).

With regard to claim 3, the combination of Ellinas and Anderson discloses the method of claim 2.

Anderson further discloses connection ID information (**p-cycle label stacks, col. 4, line 38**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine connection ID information as taught in Anderson, with Ellinas, to include a networking routing protocol so that a network can know how to re-route accordingly.

With regard to claim 4, Ellinas further discloses the protection cycle is a ring (**Fig. 1A**).

With regard to claim 5, Ellinas further discloses determining the protection transmission unit allocation is performed only after receipt of notice of the failure on the ring (**so that**) (**a network node router which supports p-cycles, col. 4, lines 24-25** and **"the networking routing protocol advertises the link failure so that the network can be re-routed without the failed link", col. 4, lines 18-20**).

With regard to claim 7, Ellinas further discloses optical transport technology (**fiber pairs, col. 6, lines 24-25**) (**See Also fiber optic, col. 1, line 50 and WDM, col. 1, line 54**) and determining transmission times for the affected flows (**on the order of milliseconds, col. 5, line 25**).

With regard to claim 11, Ellinas further discloses the protection cycle is a ring (**solid and dotted lines and the circular nature of Fig. 1A**) wherein the nodes are nodes on the ring (**network nodes in Fig. 1A**), and wherein the

connections are connections that are provisioned through at least two nodes on the ring ("**A network contains two or more nodes which are selectively connected together ...**", col. 5, lines 1-2).

9. **Claims 9,16,17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellinas and Anderson as applied to claim 1 above, and further in view of Afferton et al. (U.S. Pat No. 6,278,689).

With regard to claims 9,16,17, the combination of Ellinas and Anderson discloses the method of claim 1. Ellinas further discloses logical restoration path (**redundancy, col. 5, line 19 and protection switching, col. 5, line 26**).

However, the combination fails to explicitly show a mesh network.

Afferton discloses a mesh network (**cross-connect mesh network, col. 1, line 64**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a mesh network as taught by Afferton, with Ellinas and Anderson, in order to prevent double ring failure which is generally not restorable via the ring itself, giving rise to a service outage which is costly from both a revenue and customer satisfaction perspective. Afferton, col. 1, line 46-48.

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10. **Claims 12-15,20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Ellinas and Anderson as applied to claims 1 above, and further in view of Lu (U.S. Pat No. 5,412,652).

With regard to claim 12, the combination of Ellinas and Anderson discloses the method of claim 1. However, the combination fails to explicitly show a SONET based network, where the protection cycle is a SONET ring, and wherein the protection transmission unit allocation is a time slot on the ring.

Lu discloses a SONET based network (**SONET**) (**BLSR type SONET ring in Fig. 5, col. 8, line 25**), wherein the protection cycle is a SONET ring (**SONET ring**) (**BLSR type SONET ring in Fig. 5, col. 8, line 25**), and wherein the protection transmission unit allocation is a time slot (**time slot**) (**TSI, col. 12, line 11**) on the ring (**Fig. 5**).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include a SONET based network, where the protection cycle is a SONET ring, and wherein the protection transmission unit allocation is a time slot on the ring, as taught in Lu, with Ellinas and Anderson, to implement a SONET network.

With regard to claim 13, the combination of Ellinas and Anderson discloses the method of claim 1. However, the combination fails to explicitly show the protection cycle has a working path and a protection path, wherein

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connections are transmitted in time slots on the working path, and wherein the protection transmission units are time slots on the protection path.

Lu discloses the protection cycle **(CW/CCW)** has a working path and a protection path **(CW/CCW protection channels 7-12 for working channels 1-6, col. 8, lines 44-49)**, wherein connections are transmitted in time slots on the working path, and wherein the protection transmission units are time slots **(time slots)** on the protection path **(time slot) (TSI, col. 12, line 11) (it is inherent that the time slots are on the respective paths)**.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include the protection cycle has a working path and a protection path, wherein connections are transmitted in time slots on the working path, and wherein the protection transmission units are time slots on the protection path, as taught in Lu, with Ellinas and Anderson, to implement a SONET network.

With regard to claim 14, the combination of Ellinas, Anderson and Lu discloses the method of claim 13. Ellinas further discloses two working paths and two protection paths **(working fiber pair 1,3 and protection fiber pair 17,19, col. 6, lines 24-25)**.

Lu further discloses time slot interchange **(TSI, col. 12, line 11)** is permitted on the working path **(working channels)**, and wherein time slots **(TSI, col. 12, line 11)** are allocated on the protection path **(protection channels)**

(CW/CCW protection channels 7-12 for working channels 1-6, col. 8, lines 44-49).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include time slot interchange that is permitted on the working path, and wherein time slots are allocated on the protection path, as taught in Lu, with Ellinas and Anderson, to implement a SONET network with a p-cycle.

With regard to claim 15, the combination of Ellinas, Anderson and Lu discloses the method of claim 13.

Lu further discloses extra traffic (**extra traffic**) may be carried on the protection path ("**... the protection channels to carry extra traffic ... through the use of the SONET ring table ... only a minimum number of protection channels is necessary to restore the normal traffic**", col. 12, line 68 – col. 13, line 8), and time slot interchange (**TSI, col. 12, line 11**) is permitted for extra traffic on the protection path.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include time slot interchange that is permitted for extra traffic on the protection path, as taught in Lu, with Ellinas and Anderson, to implement a SONET network with a p-cycle.

With regard to claim 20, the combination of Ellinas and Anderson discloses the method of claim 1. However, the combination fails to explicitly show connection size information.

Lu disclose connection size information (**normal traffic, extra traffic**) (“... **the protection channels to carry extra traffic ... through the use of the SONET ring table ... only a minimum number of protection channels is necessary to restore the normal traffic**”, col. 12, line 68 – col. 13, line 8).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to include connection size information as taught in Lu, with Ellinas and Anderson, to implement a SONET network with a p-cycle.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **BLANCHE WONG** whose telephone number is (571)272-3177. The examiner can normally be reached on Monday through Friday, 830am to 530pm.

12. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571-272-7884. The fax

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phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Blanche Wong/
Examiner, Art Unit 2619
April 19, 2008

/Edan Orgad/
Supervisory Patent Examiner, Art Unit 2619